

coalescence of piles of cells into one continuous whole, as has been noticed by Barry and Toynebee.

2. IN THE OVIPAROUS VERTEBRATES. In the embryo of the Chick the phases of formation are best studied about the eighth day. Here, as in the previous instance, the opaque central part is granular and cellular, and the peripheric portion tubular or soon to become so. The minute vesicles are observed gradually expanding, until they have reached a certain size, when they become nucleated ; thus presenting the appearance of nucleated and non-nucleated cells. When they have become nucleated they begin to arrange themselves into rows, one cell after another, and then by coalescence form a tube. There is this difference, however, in the process, as it takes place in the Goat and the Chick, that in the former several rows of cells form a tube, in the latter one row only ; and extended observation renders it probable that this difference between the Oviparous and Mammalian Vertebrates in the process of fibre-development is something more than a casual one. Afterwards the nuclei of these metamorphosed cells gradually disappear, and beautiful transparent fibres are the result.

By this description it will be seen that the phenomena of this metamorphosis are of the same character as those involved in the formation of muscular fibres ; that is, a kind of intus-susception, and not, as Schwann thought, an immediate fibre transition of cells.

Dr. Durkee remarked, that he had frequently seen numerous cells of various sizes, even in the adult human lens.

Dr. Burnett said, that these were probably *diaphanous vesicles*, without nuclei, known to microscopists generally, and mentioned by Schwann. They might have been nucleated cells, the nuclei of which were transparent and very near to the cell wall, making it extremely difficult to see them. The proper diaphanous vesicles might occur in any organizable fluids.

The Secretary presented, in behalf of Mr. W. O. Ayres, descriptions of two new species of Ophiuridæ with the names *Ophiothrix hispida*, and *Ophiolepis uncinata*, as follows : —

Several species of Ophiuridæ, brought by Mr. Stimpson from

the coast of South Carolina, have been kindly referred to me for examination. Of these, two appear to be new.

The first is included in the genus *Ophiothrix* Müll. & Trosch., and is allied to *O. angulata*, (*Ophiura angulata* Say) but differs in the spines, the form of the ray-plates, &c. Its characters are thus expressed.

OPHIOTHRIX HISPIDA Ayres.

*Disk* pentagonal, with the angles between the rays somewhat prominent, about three tenths of an inch in diameter. Its entire surface, excepting the plates above the insertion of the rays, is thickly covered with spines, of different lengths, deeply dentate both at the point and on the sides. Above the origin of each ray is a pair of oval, naked plates, separated by a very narrow line of spines; their length is about one third of the diameter of the disk.

The *rays* are a little more than an inch in length. The *dorsal* plates are small, occupying only about a third of the breadth of the ray. They are angularly ovate, with the broader end outward, the narrower being concealed beneath the preceding scale. The *inferior* plates are nearly square, separated from each other by an intervening space. The *lateral* plates are larger, almost meeting above. Their free border projects outward beyond the base of the succeeding plate, so that the side of the ray appears notched. Each supports five or six spines, longer than twice the breadth of the ray, sharply dentate in their whole length, pierced with numerous minute holes. The number of spines of course diminishes toward the tip of the ray. The general appearance of the animal, from these long ray-spines and those of the disk, suggests very readily the specific name *hispida*.

The plates which separate the bases of the rays beneath are small, broadly ovate. Those forming the border of the mouth (Mundspalten) are oblong, with parallel sides destitute of teeth, and terminate very abruptly. Each has a large oval foramen near the outer extremity.

Mr. Stimpson's specimen was obtained at Fort Johnson, in shoal water. In the collection of the Society are two or three others which were probably brought from the Tortugas by Mr.

Bartlett. This locality is inferred from their being packed with other specimens of that region.

One of the most common species of the Carolina coast, judging from the numbers of them collected by Mr. Stimpson, is *Ophiolepis elongata* (*Ophiura elongata* Say.) Adhering to these, commonly on the lower surface, are found many individuals of a minute species, (the second of the two mentioned at the commencement of this paper,) which is referred with some doubt to the genus *Ophiolepis*. The species may be called

#### O. UNCINATA Ayres.

*Disk* of the largest about one twentieth of an inch in diameter, smooth, covered with a few large scales, commonly one in the centre surrounded with five or six others. The pairs of plates, usually found above the origin of the rays, are not discernible.

The *rays* are a little more than one tenth of an inch long, so that the animal, expanded, covers a breadth of three tenths. The *dorsal* and *inferior* plates have about the same form and size. They are imbricated with the lateral, so as to be in a degree covered by them. Their exposed portion is rounded on the outer border, pointed on the opposite. The *lateral* plates cover the greater part of the ray, meeting both above and beneath. Each bears one or two short, sharp spines or hooks, which are curved backward.

The plates, separating the bases of the rays beneath, are broadly ovate. Those forming the border of the mouth are oblong, tapering, perfectly smooth.

Should this even prove to be an immature type, it can yet scarcely be the young of any previously established species, and the description will still be of service. The absence of teeth on the mouth-plates, and the peculiar form of the lateral ray-spines would scarcely place this species under *Ophiolepis*, but as it approaches that genus most nearly, it is perhaps better in the present state of our knowledge concerning it, to class it there.

Mr. C. J. Sprague exhibited a specimen of *Arauja sericofera*, and read a description of the structure by which